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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/725,598	12/03/2003	Koji Irikura	0666.2120000	4879

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EXAMINER

HO, HA DINH

ART UNIT PAPER NUMBER

3681

DATE MAILED: 11/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/725,598

Applicant(s)

IRIKURA, KOJI

Examiner

Ha D. Ho

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 October 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
4a) Of the above claim(s) 7-9, 12 and 13 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11 is/are allowed.
- 6) ☒ Claim(s) 1-6 and 10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. This Office Action is responsive to the Amendment filed on 10/04/05. Claims 1-13 are currently pending.
2. Claims 7-9, 12 and 13 were withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 05/11/05.

Claim Objections

3. Claim 1 is objected to because of the following informalities: in line 6, "a rotary axis" should be changed to --the rotary axis-- because it refers to the "rotary axis" recited in line 4. Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

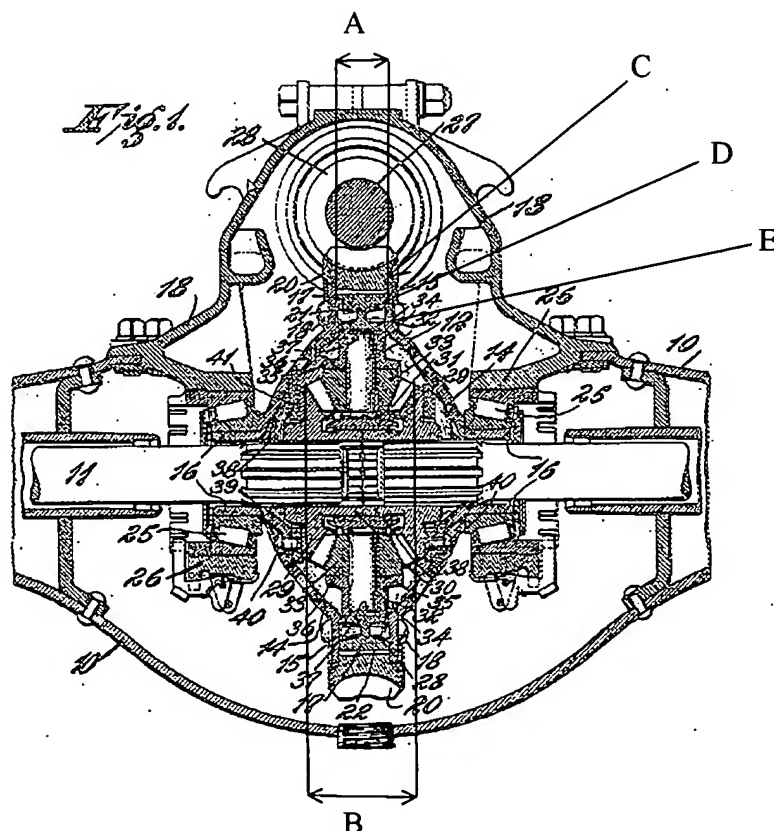
5. Claims 1, 6 and 10 rejected under 35 U.S.C. 102(b) as being anticipated by Alden (US 1,445,865).

Alden teaches a bull gear of a differential gear assembly (see Fig. 1), comprising:

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a ring gear 20 for inputting torque from a transmission (see page 2, line 40), said ring gear having inner peripheral teeth 21; and

a plate-like shaped support member 17 having a rotary axis (the axis of shaft 11) and rotatably supporting a differential pinion 33 perpendicular to the rotary axis and relatively rotatably disposed on an axle 11, wherein the rotary axis of the support member is perpendicular to a rotary axis of the differential pinion and coincides with a rotary axis of the axle, wherein the support member has a thickness A (see the inserted Figure 1 below) that is smaller than the maximum diameter B of the differential pinion, and has opposite opened side surfaces from which the differential pinion partly projects outward, and wherein the support member has outer peripheral teeth 22, which relatively axially slidably and not relatively rotatably mesh with the inner peripheral teeth of the ring gear so as to transmit the torque from the ring gear to the axle through the differential pinion.



Regarding claim 6, the ring gear 20 having a toothed outer periphery and a toothed inner periphery, wherein the toothed outer periphery serves as an input gear for receiving torque from the transmission, and wherein the toothed inner periphery meshes with the toothed portion 22 of the support member 17 so as to couple the ring gear with the support member.

Regarding claim 10, the ring gear having 20 a first surface C perpendicular to the axle, and the support member having a second surface D to be leveled with the first surface of the ring gear, further comprising: a retaining member E abutting against the first and second surfaces so as to prevent the ring gear and the support member from relatively axial shifting.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Alden (US 1,445,865) in view of Koltookian (US 4,688,962).

Alden does not teach the ring gear being stronger than the support member.

Koltookian teaches a differential gear, wherein the ring gear 16 is stronger than the support member 18 (this is so because the ring gear 16 is made of heat treated steel and the housing 18 of nodular iron, see col. 3, lines 42-44).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to select materials to make the differential of Alden such that the ring gear is stronger than the

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support member in view of Koltookian since the examiner takes Official Notice of selection of any of the known materials to form the ring gear and the support member would be within the level of ordinary skill in the art, see *In re Leshin*, 125 USPQ 416.

8. Claims 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alden (US 1,445,865) in view of Koltookian (US 4,688,962) as applied to claim 2 above, and further in view of Thoma (US 6,595,887).

Regarding claim 3, the combination of Alden and Koltookian does not show the support member made from sintered powder metal. Thoma shows a gear transmission that has gears made from sintered powder metal (see col. 1, lines 55-57). It would have been obvious to one of ordinary skill in the art at the time the invention was made to select sintered powder metal to make the support member of the combination of Alden and Koltookian in view of Thoma since the examiner takes Official Notice of selection of any of the known materials to form the support member would be within the level of ordinary skill in the art, see *In re Leshin*, 125 USPQ 416.

Regarding claim 4, the combination of Alden and Koltookian show the ring gear made of steel.

Regarding claim 5, the combination of Alden and Koltookian does not show the ring gear made from sintered powder metal. Thoma shows a gear transmission that has gears made from sintered powder metal (see col. 1, lines 55-57). It would have been obvious to one of ordinary skill in the art at the time the invention was made to select sintered powder metal to make the ring gear of the combination of Alden and Koltookian in view of Thoma since the examiner takes Official Notice of selection of any of the known materials to form the ring gear would be within the level of ordinary skill in the art, see *In re Leshin*, 125 USPQ 416.

Allowable Subject Matter

9. Claim 11 is allowed.

Response to Arguments

10. Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection (see paragraph 5).

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Communication

12. Submission of your response by facsimile transmission is encouraged. The fax phone numbers for the organization where this application or proceeding is assigned are 571-273-8300. Recognizing the fact that reducing cycle time in the processing and examination of patent

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applications will effectively increase a patent's term, it is to your benefit to submit responses by facsimile transmission whenever permissible. Such submission will place the response directly in our examining group's hands and will eliminate Post Office processing and delivery time as well as the PTO's mail room processing and delivery time. For a complete list of correspondence not permitted by facsimile transmission, see M.P.E.P. 502.01. In general, most responses and/or amendments not requiring a fee, as well as those requiring a fee but charging such fee to a deposit account, can be submitted by facsimile transmission. Responses requiring a fee which applicant is paying by check should not be submitted by facsimile transmission separately from the check. Responses submitted by facsimile transmission should include a Certificate of Transmission (M.P.E.P. 512). The following is an example of the format the certification might take:

I hereby certify that this correspondence is being facsimile transmitted to
the Patent and Trademark Office on _____

(Date)

Typed or printed name of person signing this certificate:

(Signature)

If your response is submitted by facsimile transmission, you are hereby reminded that the original should be retained as evidence of authenticity (37 CFR 1.4 and M.P.E.P. 502.02). Please do not separately mail the original or another copy unless required by the Patent and Trademark Office. Submission of the original response or a follow-up copy of the response after your response has been transmitted by facsimile will only cause further unnecessary delays in the processing of your application; duplicate responses where fees are charged to a deposit account may result in those fees being charged twice.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ha D. Ho whose telephone number is **571-272-7091**. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Marmor can be reached on **571-272-7095**.

13. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

HDH
(571) 272-7091
November 16, 2005


HA HO
PRIMARY EXAMINER
Art Unit 3681

11/16/05